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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
	10/764,335	STEINBERG ET AL.
Office Action Summary	Examiner	Art Unit	
	AMARA ABDI	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _05 February 2008_.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under _Ex parte Quayle_, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-60_ is/are pending in the application.

  4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-60_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _22 January 2004_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

  a)☐ All b)☐ Some * c)☐ None of:

  1.☐ Certified copies of the priority documents have been received.

  2.☐ Certified copies of the priority documents have been received in Application No. _____.

  3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

  * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Request for Continued Examination

1.   A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February 5, 2008 has been entered.

2.   Applicant's response to the last Office Action, filed February 5, 2008 has entered and made of record.

3.   In view of the Applicant arguments, the rejection of claims 53-55, and 57-60 under U.S.C §112, First Paragraph is expressly withdrawn.

4.   Applicant's arguments with respect to claims 1-60 have been considered but are moot in view of the new ground(s) of rejection.

Remarks:

5.   Applicant's arguments with respect to claims 53, 55, and 57 have been fully considered, but they are not persuasive.

        Applicant argues that that neither Morimoto et al. nor Niponski et al. teaches or suggests normalized face regions with respect to the size based on separation of eyes, nose, or mouth, or combination thereof.

However, in response to applicant's arguments, Examiner would like to point out

that claims language is given its broadest reasonable interpretation. Niponski et al.

clearly disclose the normalizing of the face (paragraph [0123], line 1-3) with respect to

the standard the size (paragraph [0123], line 1) based on separating the face to sub-

regions (paragraph [0125], line 1-3, and paragraph [0126], line 1-2). These sub-regions

may contain the eyes, or nose, or mouth, or the combination thereof.

Specification

6.   The specification is objected to because of the following informality:

        (a) The following limitation" two or more distinct appearance ...." was added in

claims 15 and 45, and it weren't described in the specification.

        (b) The following limitation" two or more identity tables each further comprises...."

In claim 16, and it weren't described in the specification.

Claim Rejections - 35 USC § 112

7.   The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of
> making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the
> art to which it pertains, or with which it is most nearly connected, to make and use the same and shall
> set forth the best mode contemplated by the inventor of carrying out his invention.

8.   Claims 15-16 and 45 are rejected under 35 U.S.C. 112, first paragraph, as failing

to comply with the written description requirement. The claim(s) contains subject matter

which was not described in the specification in such a way as to reasonably convey to

one skilled in the relevant art that the inventor(s), at the time the application was filed,

had possession of the claimed invention.

(A) In both claims 15 and 45, the following limitation was added **"two or more**

distinct appearance ...." This limitation does not have any support from the specification,

therefore, it is considered as a new matter.

(B) In claim 16, the following limitation was added **"two or more** identity tables

each further comprises...." This limitation does not have any support from the

specification, therefore, it is considered as a new matter.

Claim Rejections - 35 USC § 103

9.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10.   Claims 1-4, 7-10, 12-13, 15-17, 22-23, 26-30, 33-40, 43, 45-51, and 58-60 are

rejected under 35 U.S.C. 103(a) as being unpatentable over Morimoto et al. (US

6,418,235) in view of Tony S. Jebara "3D Pose Estimation and Normalization for Face

Recognition", Department of Electrical Engineering, McGill University, May 1996,

chapter 4, P-P 61-68.

(1) Regarding claim 1:

As shown in figure 4, Morimoto et al. disclose one or more processor-readable

media having stored thereon processor-readable code (column 3, line 20-22) including

a database of face print data corresponding to detected face regions within images acquired (column 1, line 10-11) with an image acquisition device (13 in figure 1, column 3, line 4) and digitally-stored (21 in figure 2, column 3, line 24-25) wherein the face print image data are stored within the media for access by processor (column 3, line 23-25) comprises:

(a) an image data component including acquired digital image data including content data and unique identifiers corresponding to individual acquired digital images or face regions therein, or both; (column 1, line 47-49), (the extracted means is read as the image data component);

(b) an identity data component including an identification listing of known identities to which identified face regions detected within the acquired digital image data have been determined to correspond; (column 1, line 45-47), (the storage means is read as the identity data component);

(c) a face recognition data component, comprising for an individual known identity (column 1, line 49-54), (the collation means is read as the face recognition data component):

(i) an appearance table including one or more identity entries for the known identity, (column 3, line 59-61), (the examiner interpreted that the table of figure 3, comprises an appearance characteristics corresponding to the identities entries);

(ii) one or more identity tables corresponding to the one or more identity

entries in the appearance table (column 3,line 59-60), (the given name is read as

the identity entries);

(iii) one or more face class tables corresponding to one or more face class

entries of the one or more identity tables, where each face class table comprises

one or more face print image entries corresponding to face prints (column 3, line

47-48; and column 3, line 56-59).

Morimoto et al. do not explicitly mention the normalizing of face regions,

comprising spatially normalized face region, which are normalized with respect to size,

orientation or pose, or luminance normalized face region, or combination thereof.

Tony J., in analogous environment, teaches a Face normalization and

recognition, where the normalized face regions comprises spatially normalized face

region, which are normalized with respect to the pose of an individual's face (Page 61,

line 17-22).

It would have been obvious to one having ordinary skill in the art at the time the

invention was made to use the system of Tony J., where normalizing face with respect

to pose of an individual's face, in the system of Morimoto et al. in order to develop a

vision system which would permit automatic machine-based face detection and

recognition in uncontrolled environments (Page 1, chapter 1, line 11-12).

(2) Regarding claim 17:

As shown in figure 4, Morimoto et al. disclose one or more processor-readable media having stored thereon processor-readable code (column 3, line 20-22) including a database of face print data corresponding to detected face regions within images acquired (column 1, line 10-11) with an image acquisition device (13 in figure 1, column 3, line 4) and digitally-stored (21 in figure 2, column 3, line 24-25) wherein the face print image data are stored within the media for access by processor (column 3, line 23-25) comprises:

(a) an image data component including acquired digital image, or a pointer to the location of said image (column 1, line 47-49), (the extracted mean is read as the image data component), and additional data associated with said image (column 1, line 48), (the additional data is read as an attribute data) including content data (column 3, line 50-52), (the examiner interpreted the face data as content data) and unique identifiers (column 3, line 44-46), (the personal data is read as unique identifier, such as a given name of person to be registered and registration item) corresponding to the acquired digital images or face regions therein, or both, and wherein the image data component further comprises an image list of the acquired digital image data (column 4, line 13-17), (the list of acquired digital image data is read as the attribute data);

(b) an identity data component including an identification listing of known identities to which identified face regions detected within the acquired digital image data have been determined to correspond (column 1, line 45-47), (the storage means is read as the identity data component);

(c) a face recognition data component, comprising for an individual known identity (column 1, line 49-54), (the collation means is read as the face recognition data component):

     (i) one or more identity tables corresponding to one or more identity entries (column 3, line 3, line 48-50), (the examiner interpreted that the table of figure 3 has the identity characteristics corresponding to the identity entries).

     (ii) one or more face class tables corresponding to one or more face class entries of the one or more identity tables, wherein each face class table comprises one or more faceprint entries (Column 3, line 56-67), (the examiner interpreted that table of figure 3 has the face class table corresponding to face class entries of the identity table).

Morimoto et al. do not explicitly mention the normalizing of face regions, comprising spatially normalized face region, which are normalized with respect to size, orientation or pose, or luminance normalized face region, or combination thereof.

Tony J., in analogous environment, teaches a Face normalization and recognition, where the normalized face regions comprises spatially normalized face region, which are normalized with respect to the pose of an individual's face (Page 61, line 17-22), size (Fig. 4.7, Page 65, line 9-13), (the average 3D face is read as a size), and luminance normalized face region (page 61, line 9-10).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of Tony J., where normalizing face with respect to pose of an individual's face, in the system of Morimoto et al. in order to develop a vision system which would permit automatic machine-based face detection and recognition in uncontrolled environments (Page 1, chapter 1, line 11-12).

(3) Regarding claim 34:

As shown in figure 4, Morimoto et al. disclose one or more processor-readable media having stored thereon processor-readable code (column 3, line 20-22) including a database of face print data corresponding to detected face regions within images acquired (column 1, line 10-11) with an image acquisition device (13 in figure 1, column 3, line 4) and digitally-stored (21 in figure 2,column 3, line 24-25) wherein the face print image data are stored within the media for access by processor (column 3, line 23-25) comprises:

(a) an image data component including acquired digital image data including content data and unique identifiers corresponding to individual acquired digital images or face regions therein, or both; (column 1, line 47-49), (the extracted means is read as the image data component);

(b) an identity data component including an identification listing of known identities to which identified face regions detected within the acquired digital image data have been determined to correspond (column 1, line 45-47), (the storage means is read as the identity data component);

(c) a face recognition data component, comprising for an individual known identity (column 1, line 49-54), (the collation means is read as the face recognition data component):

(i) one or more identity tables corresponding to one or more identities, wherein each identity table comprises one or more face class entries each defined by values of one or more face classifier parameters (figure 3, column 3, line 44-46), (the examiner interpreted the table of figure 3 as the combination of identity table and face class entries)

(ii) one or more face class tables corresponding to the one or more face class entries of the one or more identity tables, wherein each face class table comprises one or more faceprint image entries corresponding to faceprints from the acquired digital image data. (Column 3, line 50-52), (the examiner interpreted that the table of figure 3 comprises face class table which comprises face print image entries).

Morimoto et al. do not explicitly mention the normalizing of face regions, comprising spatially normalized face region, which are normalized with respect to size, orientation or pose, or luminance normalized face region, or combination thereof.

Tony J., in analogous environment, teaches a Face normalization and recognition, where the normalized face regions comprises spatially normalized face region, which are normalized with respect to the pose of an individual's face (Page 61,

line 17-22), size (Fig. 4.7, Page 65, line 9-13), (the average 3D face is read as a size),

and luminance normalized face region (page 61, line 9-10).

It would have been obvious to one having ordinary skill in the art at the time the

invention was made to use the system of Tony J., where normalizing face with respect

to pose of an individual's face, in the system of Morimoto et al. in order to develop a

vision system which would permit automatic machine-based face detection and

recognition in uncontrolled environments (Page 1, chapter 1, line 11-12).

(4) Regarding claims 2 and 35:

Morimoto et al. further disclose one or more processor-readable media (column

3, line 20-22), where the image data component further comprises an image list of the

acquired digital image data (column 4, line 13-17), (the list of acquired digital image

data is read as the attribute data).

(5) Regarding claims 3 and 22:

Morimoto et al. further disclose one or more processor-readable media (column

3, line 20-22), where at least one group of image data comprises a face region list

including one or more entries each corresponding to an identified face candidate region

within an acquired digital image (column 3, line 28-30).

(6) Regarding claims 4 and 23:

Morimoto et al. further disclose one or more processor-readable media (column

3, line 20-22), where the face region list further including one or more links,

corresponding to the one or more entries, to one or more known identities within the

identification listing of the identity data component (column 4, line 49-53), (the known identity within the identification listing is read as a personal identification such address).

(7) Regarding claims 7, 26, and 36:

Morimoto et al. further disclose one or more processor-readable media (column 3, line 20-22), where the known identities correspond to handles identifying a known person (column 4, line 18-26), (the body type data, sexuality data, and age group data are read as a known identities stored in the storage, which are corresponding to the registered person or known person).

(8) Regarding claims 8, 27, and 37:

Morimoto et al. further disclose one or more processor-readable media (column 3, line 20-22), where the identity data component further comprises database links to face recognition data of the face recognition component (figure 3, column 3, line 50-55), (it is read that the identity data comprises links to face recognition data in table of figure 3).

(9) Regarding claims 9, 28, and 38:

Morimoto et al. further disclose one or more processor-readable media (column 3, line 20-22), where the identity data component further comprises one or more database links to personal data associated with one or more known identities (figure 3, column 3, line 48-50), (the known identity is read as the given name of the registered person and has a link to personal data in table of figure 3).

(10) Regarding claims 10, 29, and 39:

Morimoto et al. further disclose one or more processor-readable media (column 3, line 20-22), where the identity data component comprises a table of personal data associated with a known identity (see table of figure 3), (the personal data is read as an attribute data which is associated with known identity).

(11) Regarding claims 12 and 33:

Morimoto et al. further disclose one or more processor-readable media (column 3, line 20-22), where each identity table comprises one or more face class entries each defined by values of one or more face classifier parameters (see table of figure 3), (the face data is read as face class entries which is define by one or more of contour line, and an area).

(12) Regarding claims 13 and 43:

Morimoto et al. further disclose one or more processor-readable media (column 3, line 20-22), where at least two identity entries are characterized separately due to at least one distinguishing appearance characteristic (figure 4, step n3, column 4, line 15-16), (in step n4, it is read that the attribute data includes the body type data, which is interpreted as one of the distinguishing appearance that can make difference between two identities entries).

(13) Regarding claims 15 and 45:

Morimoto et al. further disclose one or more processor-readable media (column 3, line 20-22), where the appearance table comprises a list of links to one or more identity tables associated with distinct appearances determined for the known identity

(figure 3, column 3, line 50-55), (the distinct appearance is read as the body type which is associated to the identity of the person to be registered).

(14) Regarding claims 16 and 46:

Morimoto et al. further disclose one or more processor-readable media (column 3, line 20-22), where the one or more identity tables further comprise one or more links corresponding to the one or more face class tables (figure 3, column 3, line 46-48), (it is read that the one or more identity data in the table such as given name or ID, has a link to the face data in the table such as eyes, and position of nose).

(14) Regarding claims 30 and 40:

Morimoto et al. further disclose one or more processor-readable media (column 3, line 20-22), where the personal data comprises full name, one or more address, one or more phone numbers, one or more email address, one or more web address, or combination thereof (table of figure 3, column 3, line 44-45 and line 48-50).

(15) Regarding claim 47:

Morimoto et al. further disclose one or more processor-readable media (column 3, line 20-22), where the one or more face class tables comprises one or more of the previously determined value range of the one or more face classifier parameters (Figure 3, column 3, line 44-46), (it is read that the table of figure 3 comprises a face class table which includes a value range of face parameter).

(16) Regarding claim 48:

Morimoto et al. further disclose one or more processor-readable media (column 3, line 20-22), where each value range is uniquely associated with the identified and

user confirmed face region detected within the acquired digital image (column 1, line 47-49), (it is read that the value range in the table of figure 3 is associated with the identified face region detected within the acquired digital image).

(17) Regarding claims 49, 50, and 51:

Morimoto et al. disclose one or more processor-readable media (column 3, line 20-22) as described in claims 1, 17, and 34 above.

Morimoto et al. do not explicitly mention the system, where the normalized face regions are normalized prior to extracting face classifier parameters therefrom.

Tony J., in analogous environment, teaches a Face normalization and recognition, where the normalized face regions are normalized prior to extracting face classifier parameters therefrom (Page 80, line 15-16), (Tony J. clearly normalizing the face before the recognition and classification of the identity on the basis of the variance).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of Tony J., where the normalized face regions are normalized prior to extracting face classifier parameters therefrom, in the system of Morimoto et al. in order to develop a vision system which would permit automatic machine-based face detection and recognition in uncontrolled environments (Page 1, chapter 1, line 11-12).

(18) Regarding claims 58, 59, and 60:

Morimoto et al. disclose one or more processor-readable media (column 3, line 20-22) as described in claims 1, 17, and 34 above.

Morimoto et al. do not explicitly mention the system, where the normalized face regions are normalized with respect to pose, and then with respect to orientation, and then with respect to size.

Tony J., in analogous environment, teaches a Face normalization and recognition, where the normalized face regions are normalized with respect to pose (Page 61, line 17-19) and then with respect to orientation (Page 61, line 18-19), and then with respect to size (Page 61, line 20-23), (it is read the segmenting and histogram of face comprise the size of face)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of Tony J., where normalizing with respect to pose, than orientation than size, in the system of Morimoto et al. in order to develop a vision system which would permit automatic machine-based face detection and recognition in uncontrolled environments (Page 1, chapter 1, line 11-12).

11.   Claims 5-6 and 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morimoto et al. (US 6,418,235) in view of Tony S. Jebara "3D Pose Estimation and Normalization for Face Recognition", Department of Electrical Engineering, McGill University, May 1996, chapter 4, P-P 61-68, and Watanabe (US-PGPUB 2003/0048926).

(1) Regarding claims 5 and 24:

As shown in figure 4, Morimoto et al. disclose one or more processor-readable media having stored thereon processor-readable code (column 3, line 20-22) including

a database of face print data corresponding to detected face regions within images acquired (column 1, line 10-11) with an image acquisition device (13 in figure 1, column 3, line 4) and digitally-stored (21 in figure 2,column 3, line 24-25) wherein the face print image data are stored within the media for access by processor (column 3, line 23-25) comprises:

(a) an image data component including acquired digital image data including content data and unique identifiers corresponding to individual acquired digital images or face regions therein, or both; (column 1, line 47-49), (the extracted means is read as the image data component);

(b) an identity data component including an identification listing of known identities to which identified face regions detected within the acquired digital image data have been determined to correspond; (column 1, line 45-47), (the storage means is read as the identity data component);

(c) a face recognition data component, comprising for an individual known identity (column 1, line 49-54), (the collation means is read as the face recognition data component):

(i) an appearance table including one or more identity entries for the known identity, (column 3, line 59-61), (the examiner interpreted that the table of figure 3, comprises an appearance characteristics corresponding to the identities entries);

(ii) one or more identity tables corresponding to the one or more identity entries in the appearance table (column 3,line 59-60), (the given name is read as the identity entries);

(iii) one or more face class tables corresponding to one or more face class entries of the one or more identity tables, where each face class table comprises one or more face print image entries corresponding to face prints (column 3, line 47-48; and column 3, line 56-59).

Morimoto et al. do not explicitly mention the following items:

1) the normalizing of face regions, comprising spatially normalized face region, which are normalized with respect to size, orientation or pose, or luminance normalized face region, or combination thereof.

2) the multiple tables of image classification events, occasions, locations, or place, or other categories to which groups of multiple images of image data are determined to belong.

(A) Concerning item 1):

Tony J., in analogous environment, teaches a Face normalization and recognition, where the normalized face regions comprises spatially normalized face region, which are normalized with respect to the pose of an individual's face (Page 61, line 17-22), size (Fig. 4.7, Page 65, line 9-13), (the average 3D face is read as a size), and luminance normalized face region (page 61, line 9-10).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of Tony J., where normalizing face with respect to pose of an individual's face, in the system of Morimoto et al. in order to develop a vision system which would permit automatic machine-based face detection and recognition in uncontrolled environments (Page 1, chapter 1, line 11-12).

(B) Concerning item 2):

Watanabe, in analogous environment, teaches a surveillance system, surveillance method and surveillance program, where using the multiple tables of image classification events (tables of Fig. 9 and 10 are read as multiple tables), occasions, locations, or place (Fig. 9, paragraph [0088], line1-13, and paragraph [0089], line 1-3).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of Watanabe, where using multiple tables of image classification, in the system of Morimoto et al. in order to provide a surveillance system whereby specific persons can be detected readily from visiting persons, without placing a large burden on the surveillance operator (see the Abstract, line 1-4).

(2) Regarding claims 6 and 25:

Morimoto et al. further disclose one or more processor-readable media (column 3, line 20-22), where the image data component further comprises a set of database links to the tables of image classification categories (column 4, line 64-65), (the set of database is read as the attribute data set to the image data).

12.   Claims 11, 31-32, and 41-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morimoto et al. (US 6,418,235) in view of Tony S. Jebara "3D Pose Estimation and Normalization for Face Recognition", Department of Electrical Engineering, McGill University, May 1996, chapter 4, P-P 61-68, and Jonas (US-PGPUB 2004/0210763).

(1) Regarding claims 11, 31, and 41:

As shown in figure 4, Morimoto et al. disclose one or more processor-readable media having stored thereon processor-readable code (column 3, line 20-22) including a database of face print data corresponding to detected face regions within images acquired (column 1, line 10-11) with an image acquisition device (13 in figure 1, column 3, line 4) and digitally-stored (21 in figure 2,column 3, line 24-25) wherein the face print image data are stored within the media for access by processor (column 3, line 23-25) comprises:

(a) an image data component including acquired digital image data including content data and unique identifiers corresponding to individual acquired digital images or face regions therein, or both; (column 1, line 47-49), (the extracted means is read as the image data component);

(b) an identity data component including an identification listing of known identities to which identified face regions detected within the acquired digital image data have been determined to correspond; (column 1, line 45-47), (the storage means is read as the identity data component);

(c) a face recognition data component, comprising for an individual known identity (column 1, line 49-54), (the collation means is read as the face recognition data component):

   (i) an appearance table including one or more identity entries for the known identity, (column 3, line 59-61), (the examiner interpreted that the table of figure 3, comprises an appearance characteristics corresponding to the identities entries);

   (ii) one or more identity tables corresponding to the one or more identity entries in the appearance table (column 3,line 59-60), (the given name is read as the identity entries);

   (iii) one or more face class tables corresponding to one or more face class entries of the one or more identity tables, where each face class table comprises one or more face print image entries corresponding to face prints (column 3, line 47-48; and column 3, line 56-59).

Morimoto et al. do not explicitly mention the following items:

1) the normalizing of face regions, comprising spatially normalized face region, which are normalized with respect to size, orientation or pose, or luminance normalized face region, or combination thereof.

2) wherein the system further comprises a set of links to a relationship list or a group membership list or both.

(A) Concerning item 1):

Tony J., in analogous environment, teaches a Face normalization and recognition, where the normalized face regions comprises spatially normalized face region, which are normalized with respect to the pose of an individual's face (Page 61, line 17-22), size (Fig. 4.7, Page 65, line 9-13), (the average 3D face is read as a size), and luminance normalized face region (page 61, line 9-10).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of Tony J., where normalizing face with respect to pose of an individual's face, in the system of Morimoto et al. in order to develop a vision system which would permit automatic machine-based face detection and recognition in uncontrolled environments (Page 1, chapter 1, line 11-12).

(B) Concerning item 2):

Jonas, in analogous environment, teaches a confidential data sharing and anonymous entry resolution, where the system comprises a set of links to a relationship list (paragraph [0039], line 1-3), (it is read that the identifier is linked to the relationship)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of Jonas, where the system comprises a set of links to a relationship, in the system of Morimoto et al. in order to provide a method for processing data in a database (paragraph [0012], line 1-2).

(2) Regarding claims 32 and 42:

Morimoto et al. further disclose one or more processor-readable media (column 3, line 20-22), where the relationship list comprises data on relationships between the

known identity and other identities named within the database, and wherein the group membership list comprises data on grouping of known identities based on family ties, hobbies, interests, group memberships, interpersonal relationships, or combinations thereof (Table of figure 3, column 3, line 52-55 and line 61-67).

13.   Claims 52-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morimoto et al. and Tony S., as applied to claim 1 above, and further in view of Nicponski (US-PGPUB 2003/0128877).

   (1) Regarding claims 52, 54, and 56:

   Morimoto et al. and Tony S. disclose one or more processor-readable media (column 3, line 20-22) as described in claims 1, 17, and 34 above.

   Morimoto et al. and Tony S. do not explicitly mention the system, where the normalized face regions are normalized with respect to size.

   Nicponski, in analogous environment, teaches a method and system for processing images for themed imaging services, where the normalized face regions are normalized (paragraph [0123], line 1-3) with respect to size (paragraph [0123], line 1).

   It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of Nicponski, where normalizing a face regions with respect to the size, in the system of Morimoto et al. in order to processes a digital image to recognize and thereby assign useful meaning to human understandable objects, attributes or conditions and then to utilize the results obtained in the further processing of the digital image (paragraph [0183], line 4-7).

(2) Regarding claims 53, 55, and 57:

Morimoto et al. disclose one or more processor-readable media (column 3, line 20-22) as described in claims 52, 54 and 56 above.

Morimoto et al. do not explicitly mention the system, where the normalized face regions are normalized with respect to a standard size based on separation of eyes, nose or mouth, or combination thereof.

Nicponski, in analogous environment, teaches a method and system for processing images for themed imaging services, where the normalized face regions are normalized (paragraph [0123], line 1-3) with respect to standard size (paragraph [0123], line 1) based on separation of eyes, nose, or mouth (paragraph [0125], line 1-3), (the sub-region size which contains facial features is read as the same concept as the separation of eyes, nose, or mouth).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of Nicponski, where normalizing a face regions based on separation of eyes, nose, or mouth, in the system of Morimoto et al. in order to processes a digital image to recognize and thereby assign useful meaning to human understandable objects, attributes or conditions and then to utilize the results obtained in the further processing of the digital image (paragraph [0183], line 4-7).

14.   Claims 14 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morimoto et al. and Tony S., as applied to claim 1 above, and further in view of Lee et al. (7,092,555).

Morimoto et al. and Tony S. disclose all the subject matter as described in claims 13 and 43 above.

Morimoto et al. and Tony S. do not explicitly mention the one or more processor-readable media, where the appearance characteristic is distinguished as determined from a sufficient difference in value of at least one face classifier parameter between faceprints and associated normalized face region determined to correspond to the same known identity, or based on user input, or both.

Lee et al., in analogous environment, teaches a system for registering and authenticating human face, where the appearance characteristic is distinguished (column 6, line 13-17) as determined from a sufficient difference in value of at least one face classifier parameter (column 4, line 62-63) between faceprints and associated normalized face region (column 4, line 57-61) determined to correspond to the same known identity (column 8, line 24-30).

It would have been obvious to one having ordinary skill in the art at the time of the invention was made to use the system of Lee et al., where the appearance characteristic is distinguished, in the system of Morimoto et al. in order to improve the authentication performance as readily distinguishable feature information is used, and the time for face authentication is reduced as face authentication is performed by using the optimal set of readily distinguishable features at a training step (column 9, line 22-28).

15.   Claims 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Morimoto et al. (US 6,418,235) in view of Tony S. Jebara "3D Pose Estimation and

Normalization for Face Recognition", Department of Electrical Engineering, McGill

University, May 1996, chapter 4, P-P 61-68, and DeLuca et al. (US-PGPUB

2004/0223063).

(1) Regarding claim 18:

As shown in figure 4, Morimoto et al. disclose one or more processor-readable

media having stored thereon processor-readable code (column 3, line 20-22) including

a database of face print data corresponding to detected face regions within images

acquired (column 1, line 10-11) with an image acquisition device (13 in figure 1, column

3, line 4) and digitally-stored (21 in figure 2,column 3, line 24-25) wherein the face print

image data are stored within the media for access by processor (column 3, line 23-25)

comprises:

(a) an image data component including acquired digital image, or a pointer to the

location of said image (column 1, line 47-49), (the extracted mean is read as the image

data component), and additional data associated with said image (column 1, line 48),

(the additional data is read as an attribute data) including content data (column 3, line

50-52), (the examiner interpreted the face data as content data) and unique identifiers

(column 3, line 44-46), (the personal data is read as unique identifier, such as a given

name of person to be registered and registration item) corresponding to the acquired

digital images or face regions therein, or both, and wherein the image data component

further comprises an image list of the acquired digital image data (column 4, line 13-17), (the list of acquired digital image data is read as the attribute data);

(b) an identity data component including an identification listing of known identities to which identified face regions detected within the acquired digital image data have been determined to correspond (column 1, line 45-47), (the storage means is read as the identity data component);

(c) a face recognition data component, comprising for an individual known identity (column 1, line 49-54), (the collation means is read as the face recognition data component):

(i) one or more identity tables corresponding to one or more identity entries (column 3, line 3, line 48-50), (the examiner interpreted that the table of figure 3 has the identity characteristics corresponding to the identity entries).

(ii) one or more face class tables corresponding to one or more face class entries of the one or more identity tables, wherein each face class table comprises one or more faceprint entries (Column 3, line 56-67), (the examiner interpreted that table of figure 3 has the face class table corresponding to face class entries of the identity table).

Morimoto et al. do not explicitly mention the following items:

1) normalizing of face regions, comprising spatially normalized face region, which are normalized with respect to size, orientation or pose, or luminance normalized face region, or combination thereof.

2) wherein the one or more groups of image data further include image metada including anthropometrical information.

(A) Concerning item 1):

Tony J., in analogous environment, teaches a Face normalization and recognition, where the normalized face regions comprises spatially normalized face region, which are normalized with respect to the pose of an individual's face (Page 61, line 17-22), size (Page 65, line 9-13), (the average 3D face is read as a size), and luminance normalized face region (page 61, line 9-10).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of Tony J., where normalizing face with respect to pose of an individual's face, in the system of Morimoto et al. in order to develop a vision system which would permit automatic machine-based face detection and recognition in uncontrolled environments (Page 1, chapter 1, line 11-12).

(B) Concerning item 2):

DeLuca et al., in analogous environment, teaches a detecting red eye filter and apparatus using meta-data, where the image data image data include image metada (paragraph [0148], line 14-17) including anthropometrical information (paragraph [0069], line 4-5).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of DeLuca et al., where the image data includes a metadata including anthropometrical information, in the system of Morimoto et al., because such feature can provide a good indication as to whether an object is an eye,

based on analysis of other detected human objects in the image (paragraph [0017], line 4-6).

(2) Regarding claim 19:

As shown in figure 4, Morimoto et al. disclose one or more processor-readable media having stored thereon processor-readable code (column 3, line 20-22) including a database of face print data corresponding to detected face regions within images acquired (column 1, line 10-11) with an image acquisition device (13 in figure 1, column 3, line 4) and digitally-stored (21 in figure 2,column 3, line 24-25) wherein the face print image data are stored within the media for access by processor (column 3, line 23-25) comprises:

(a) an image data component including acquired digital image, or a pointer to the location of said image (column 1, line 47-49), (the extracted mean is read as the image data component), and additional data associated with said image (column 1, line 48), (the additional data is read as an attribute data) including content data (column 3, line 50-52), (the examiner interpreted the face data as content data) and unique identifiers (column 3, line 44-46), (the personal data is read as unique identifier, such as a given name of person to be registered and registration item) corresponding to the acquired digital images or face regions therein, or both, and wherein the image data component further comprises an image list of the acquired digital image data (column 4, line 13-17), (the list of acquired digital image data is read as the attribute data);

(b) an identity data component including an identification listing of known identities to which identified face regions detected within the acquired digital image data

have been determined to correspond (column 1, line 45-47), (the storage means is read as the identity data component);

(c) a face recognition data component, comprising for an individual known identity (column 1, line 49-54), (the collation means is read as the face recognition data component):

(i) one or more identity tables corresponding to one or more identity entries (column 3, line 3, line 48-50), (the examiner interpreted that the table of figure 3 has the identity characteristics corresponding to the identity entries).

(ii) one or more face class tables corresponding to one or more face class entries of the one or more identity tables, wherein each face class table comprises one or more faceprint entries (Column 3, line 56-67), (the examiner interpreted that table of figure 3 has the face class table corresponding to face class entries of the identity table).

Morimoto et al. do not explicitly mention the following items:

1) normalizing of face regions, comprising spatially normalized face region, which are normalized with respect to size, orientation or pose, or luminance normalized face region, or combination thereof.

2) wherein the one or more groups of image data further include image metada Including focusing distance of the lens at the time of acquisition, or effective digital camera sensor size, or both.

(A) Concerning item 1):

Tony J., in analogous environment, teaches a Face normalization and recognition, where the normalized face regions comprises spatially normalized face region, which are normalized with respect to the pose of an individual's face (Page 61, line 17-22), size (Page 65, line 9-13), (the average 3D face is read as a size), and luminance normalized face region (page 61, line 9-10).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of Tony J., where normalizing face with respect to pose of an individual's face, in the system of Morimoto et al. in order to develop a vision system which would permit automatic machine-based face detection and recognition in uncontrolled environments (Page 1, chapter 1, line 11-12).

(B) Concerning item 2):

DeLuca et al., in analogous environment, teaches a detecting red eye filter and apparatus using meta-data, where the image data image data include image metada (paragraph [0148], line 14-17) including focusing distance of the lens at the time of acquisition (paragraph [0030], line 1-3).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of DeLuca et al., where the image data includes a metadata including focusing distance of the lens at the time of acquisition, in the system of Morimoto et al., because in such feature the digital capture device has an

advantage that the image contains more data than traditional film based image has
(paragraph [0010], line 1-3).

16.   Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over
Morimoto et al. (US 6,418,235) in view of Tony S. Jebara "3D Pose Estimation and
Normalization for Face Recognition", Department of Electrical Engineering, McGill
University, May 1996, chapter 4, P-P 61-68, and Enomoto (US-PGPUB 2003/0086134).

As shown in figure 4, Morimoto et al. disclose one or more processor-readable
media having stored thereon processor-readable code (column 3, line 20-22) including
a database of face print data corresponding to detected face regions within images
acquired (column 1, line 10-11) with an image acquisition device (13 in figure 1, column
3, line 4) and digitally-stored (21 in figure 2,column 3, line 24-25) wherein the face print
image data are stored within the media for access by processor (column 3, line 23-25)
comprises:

(a) an image data component including acquired digital image, or a pointer to the
location of said image (column 1, line 47-49), (the extracted mean is read as the image
data component), and additional data associated with said image (column 1, line 48),
(the additional data is read as an attribute data) including content data (column 3, line
50-52), (the examiner interpreted the face data as content data) and unique identifiers
(column 3, line 44-46), (the personal data is read as unique identifier, such as a given
name of person to be registered and registration item) corresponding to the acquired
digital images or face regions therein, or both, and wherein the image data component

further comprises an image list of the acquired digital image data (column 4, line 13-17), (the list of acquired digital image data is read as the attribute data);

(b) an identity data component including an identification listing of known identities to which identified face regions detected within the acquired digital image data have been determined to correspond (column 1, line 45-47), (the storage means is read as the identity data component);

(c) a face recognition data component, comprising for an individual known identity (column 1, line 49-54), (the collation means is read as the face recognition data component):

     (i) one or more identity tables corresponding to one or more identity entries (column 3, line 3, line 48-50), (the examiner interpreted that the table of figure 3 has the identity characteristics corresponding to the identity entries).

     (ii) one or more face class tables corresponding to one or more face class entries of the one or more identity tables, wherein each face class table comprises one or more faceprint entries (Column 3, line 56-67), (the examiner interpreted that table of figure 3 has the face class table corresponding to face class entries of the identity table).

Morimoto et al. do not explicitly mention the following items:

1) normalizing of face regions, comprising spatially normalized face region, which are normalized with respect to size, orientation or pose, or luminance normalized face region, or combination thereof.

2) wherein the image data component further includes additional image data associated with circumstances of acquisition of a parent image and associated face region corresponding to a group of image data.

(A) Concerning item 1):

Tony J., in analogous environment, teaches a Face normalization and recognition, where the normalized face regions comprises spatially normalized face region, which are normalized with respect to the pose of an individual's face (Page 61, line 17-22), size (Page 65, line 9-13), (the average 3D face is read as a size), and luminance normalized face region (page 61, line 9-10).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of Tony J., where normalizing face with respect to pose of an individual's face, in the system of Morimoto et al. in order to develop a vision system which would permit automatic machine-based face detection and recognition in uncontrolled environments (Page 1, chapter 1, line 11-12).

(B) Concerning item 2):

Enomoto, in analogous environment, teaches an apparatus and method for image processing, where the image data component further includes additional image data associated with circumstances of acquisition of a parent image (paragraph [0092], line 14-16) and associated face region corresponding to a group of image data (paragraph [0092], line 16-19).

It would have been obvious to one having ordinary skill in the art at the time the

invention was made to use the system of Enomoto, where the additional image data associated with circumstances of acquisition of a parent image, in the system of Morimoto et al. in order to effectively executing red-eye color correction processing, freckle and wrinkle removing processing, trimming processing and the like for executing image processing based on image data (paragraph [0008], line 1-8).

17.   Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Morimoto et al.,Tony S. Jebara and Enomoto, as applied to claim 20 above, and further in view of Okusa (US-PGPUB 2003/0158838).

Morimoto et al., Tony S. Jebara and Enomoto disclose all the subject matter as described in claim 20 above. Furthermore, Enomoto discloses an image processing including red eye correction (paragraph [0008], line 4-5).

Morimoto et al., Tony S. Jebara and Enomoto do not explicitly mention that the circumstances comprising location of image acquisition, date and time of image acquisition, type of image acquisition device.

Okusa, in analogous environment, teaches an image processing apparatus, comprising location of image acquisition (paragraph [0050], line 33-34), date (paragraph [0050], line 30-31) and time (paragraph [0050], line 17) of image acquisition, type of image acquisition device (paragraph [0050], line 4-5).

It would have obvious to one having ordinary skill in the art at the time the invention was made to use the system of Okusa, where the image processing apparatus comprises location of image acquisition, date and time of image acquisition,

type of image acquisition device, in the system of Morimoto et al. in order to eliminate

the labor required to enter a keyword for retrieving image data, and that can reduce the

time needed to prepare retrieval data (paragraph [0014], line 3-5).

Contact Information:

18.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to AMARA ABDI whose telephone number is (571)270-

1670. The examiner can normally be reached on Monday through Friday 8:00 Am to

4:00 PM E.T..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Wu Jingge can be reached on (571) 272-7429. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

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